

## REMARKS

This amendment responds to the Office Action mailed October 23, 2006. In the office action the Examiner:

- rejected claims 16-23 and 37-40 under 35 U.S.C. 103(a) as being unpatentable over Dieffenderfer et al. (US 5,910,930, hereinafter "Dieffenderfer"); and
- allowed claims 24-31 and 41-44.

After entry of this amendment, the pending claims are: claims 16-22, 24-31, 37-44, and 62-69.

### ***Request for Reinstatement of Withdrawn Claims 32-36 and 45-54***

Claim 24 is allowed, and claims 32 and 45 have been amended to replace "first power mode" with "standby power mode" as in claim 24. Applicant requests that the Examiner reinstate withdrawn claims 32-36 and 45-54, as amended based on the allowance of claim 24. Claim 24 is generic to claims 32-36 and 45-54, as amended.

### ***Overview of Changes to the Claims***

Claim 16 has been amended to clarify that power consumption in the first mode is less than power consumption in the active mode. An example of support is found at page 6, lines 3-6 and page 8, lines 26-31 of the present application. Claim 16 also has been amended to clarify an antecedent reference.

Claim 23 has been cancelled.

New claim 62 is similar to allowed claim 24, but uses the term "first power mode" instead of "standby power mode" and furthermore includes the phrase "wherein power consumption in the first power mode is less than that consumed while in the active mode." An example of support is found at page 6, lines 3-6 and page 8, lines 26-31 of the present application. Claims 63-69 depend from claim 62 and add the same limitations to claim 62 as claims 25-31 with respect to claim 24.

New claims 62-69 are patentable over the prior art of record for at least the same reasons as claims 24-31.

### ***Claim Rejections – 35 U.S.C. § 103***

The Examiner rejected claims 16-23 and 37-40, including independent claims 16 and 37, under 35 U.S.C. § 103(a) as unpatentable over Dieffenderfer in view of Foss. Regarding both independent claims 16 and 37, the Examiner argued that Dieffenderfer taught all recited claim elements except that “the memory device is a single chip dynamic random access memory. However, Foss teaches this matter.” The Examiner asserted that it would have been obvious to integrate Dieffenderfer’s teachings into the single-chip memory of Foss.

#### ***Improper Rejection under 35 U.S.C. 103 Due to No Reasonable Likelihood of Success***

A reasonable likelihood of success in combining reference teachings is a basic requirement to establish a *prima facie* case of obviousness. MPEP § 2143. A combination of Dieffenderfer and Foss would not be reasonably likely to succeed because, as explained below, the two references are fundamentally incompatible.

Dieffenderfer and Foss are incompatible because Dieffenderfer requires software that is not present in Foss and that is unusable in the context of Foss. Software executed by the microprocessor in Dieffenderfer is used to select a power-down mode. In the example of a DMA controller integrated into the microprocessor, “software would select one of the powered-down modes for the DMA controller portion of the chip.” Col. 6, lines 4-6. Dieffenderfer emphasizes that while the disclosed invention minimizes the amount of required software, some software is still needed: “The invention eliminates the need for software intervention to manage the entrance into power saving modes by various hardware units in a microprocessor, *once the initial selection of a powered-down mode has been made.*” Col. 7, lines 7-11 (emphasis added). In other words, software is still needed to select the powered-down mode. The integrated circuit disclosed in Foss, however, is a memory chip, not a microprocessor, and is therefore incapable of executing software.

The inability of the memory chip in Foss to execute the software required by Dieffenderfer makes the two references fundamentally incompatible. In light of this fundamental incompatibility, a person of ordinary skill in the art would not reasonably expect a combination of the two references to succeed. Therefore, the § 103 rejection is improper.

In addition, it is noted that claims 16-23 are directed to a single chip dynamic random access memory device and claims 37-40 are directed to a method of operation of a single chip dynamic random access memory device. The software-based power management methodology of Dieffenderfer is incompatible with the single chip dynamic random access memory device requirement of these claims, and thus a person of ordinary skill in the art would not reasonably expect the power management methodology of Dieffenderfer to be successfully applied to the claimed device or method. Therefore, for this additional reason the § 103 rejection is improper.

***Improper Rejection under 35 U.S.C. 103***

***Due to Lack of Motivation***

The combination of Dieffenderfer with Foss is also improper because no motivation or suggestion exists to combine the two references. To justify a rejection under § 103, “the examiner or court must show some suggestion or motivation, before the invention itself, to make the new combination.” *Ruiz v. A.B. Chance Co*, 357 F.3d 1270, 1275 (Fed. Cir. 2004). “Rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references” is necessary to guard against hindsight bias. *In re Gartside*, 203 F.3d 1305, 1319 (Fed. Cir. 2000). A suggestion or motivation to combine may expressly appear in the references or may come from “the nature of the problem to be solved.” *Id.*; *Ruiz*, 357 F.3d at 1276.

Neither Dieffenderfer nor Foss contains an express suggestion to combine the two sources. Foss states that its scope includes SDRAM and “other synchronous memories such as synchronous static random access memories, video random access memories, synchronous graphics random access memories, synchronous read only memories.” Col. 4, lines 41-43. Dieffenderfer, however, involves microprocessors, not synchronous memories. Nowhere does Dieffenderfer say that its teachings may be applied to synchronous memories.

The nature of the problems solved by Dieffenderfer and Foss do not provide an implicit motivation to combine the two references. Dieffenderfer concerns “power management in a microprocessor.” Col. 1, lines 7-8. Foss discloses a scheme for “applying a clock to a synchronous memory” that avoids the difficulties in using an on-chip PLL. Col. 1, lines 7-8; col. 2, lines 28-37. Because these problems are fundamentally different, a person

of ordinary skill in the art would not be motivated to combine the two references. Therefore, rejection of claim 16, claim 37, and their accompanying dependent claims based on a combination of these two references is improper.

## CONCLUSION

In light of the above amendments and remarks, the applicants respectfully request that the Examiner reconsider this application with a view towards allowance. The Examiner is invited to call the undersigned attorney if a telephone call could help resolve any remaining items.

Respectfully submitted,

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